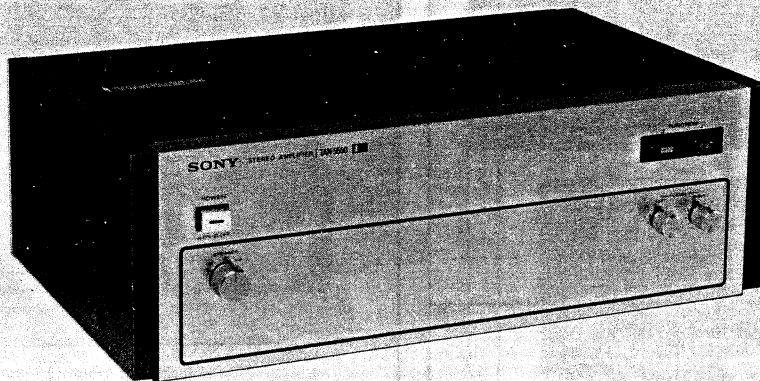


TAN-5550

AEP Model



STEREO POWER AMPLIFIER

SPECIFICATIONS

POWER AMPLIFIER SECTION

Continuous RMS

Power Output: Both channels driven simultaneously
(rated output)
(Less than 0.1 % harmonic distortion)
At 20 ~ 20,000 Hz
50 + 50 W (8 Ω)
At 1 kHz
60 + 60 W (8 Ω)
50 + 50 W (4 Ω)
According to DIN 45500
60 + 60 W (8 Ω)

Dynamic Power Output: 160 W (8 Ω)
(IHF constant power supply method)
140 W (4 Ω)

Power Bandwidth: 5 ~ 40,000 Hz, IHF

Damping Factor: 100 (8 Ω , at 1 kHz)

Harmonic Distortion: Less than 0.1 % at rated output
Less than 0.08 % at 1 W output

IM Distortion: Less than 0.1 % at rated output
(60 Hz : 7 kHz = 4 : 1) Less than 0.08 % at 1 W output

Frequency Response: 10 ~ 100,000 Hz $^{+0}_{-2}$ dB
(NORMAL/TEST switches at NORMAL)
DC ~ 100,000 Hz $^{+0}_{-2}$ dB
(NORMAL/TEST switches at TEST)

S/N Ratio: Greater than 110 dB, short-circuited input

Residual Noise: Less than 0.02 μ W (8 Ω)

Inputs: Sensitivity 1.0 V (for rated output)
Impedance 50 k Ω

Outputs: SPEAKER A, B terminals
Accept 4 ~ 16 Ω speakers

GENERAL

Circuits: Phase-linear dc stereo power amplifier in direct-coupled V-FET pure complementary symmetry circuitry

Power Requirements: 110, 127, 220 or 240 V ac,
50/60 Hz

Power Consumption: 680 W

AC Outlet: 1 unswitched, 400 W

Dimensions: Approx.
460 (w) x 168 (h) x 305 (d) mm
18 $\frac{1}{8}$ (w) x 6 $\frac{5}{8}$ (h) x 12 $\frac{1}{8}$ (d) inches
Including projecting parts and controls

Weight: Approx. 12.5 kg, 27 lb 9 oz (net)
Approx. 14.9 kg, 32 lb 16 oz
(with shipping carton)

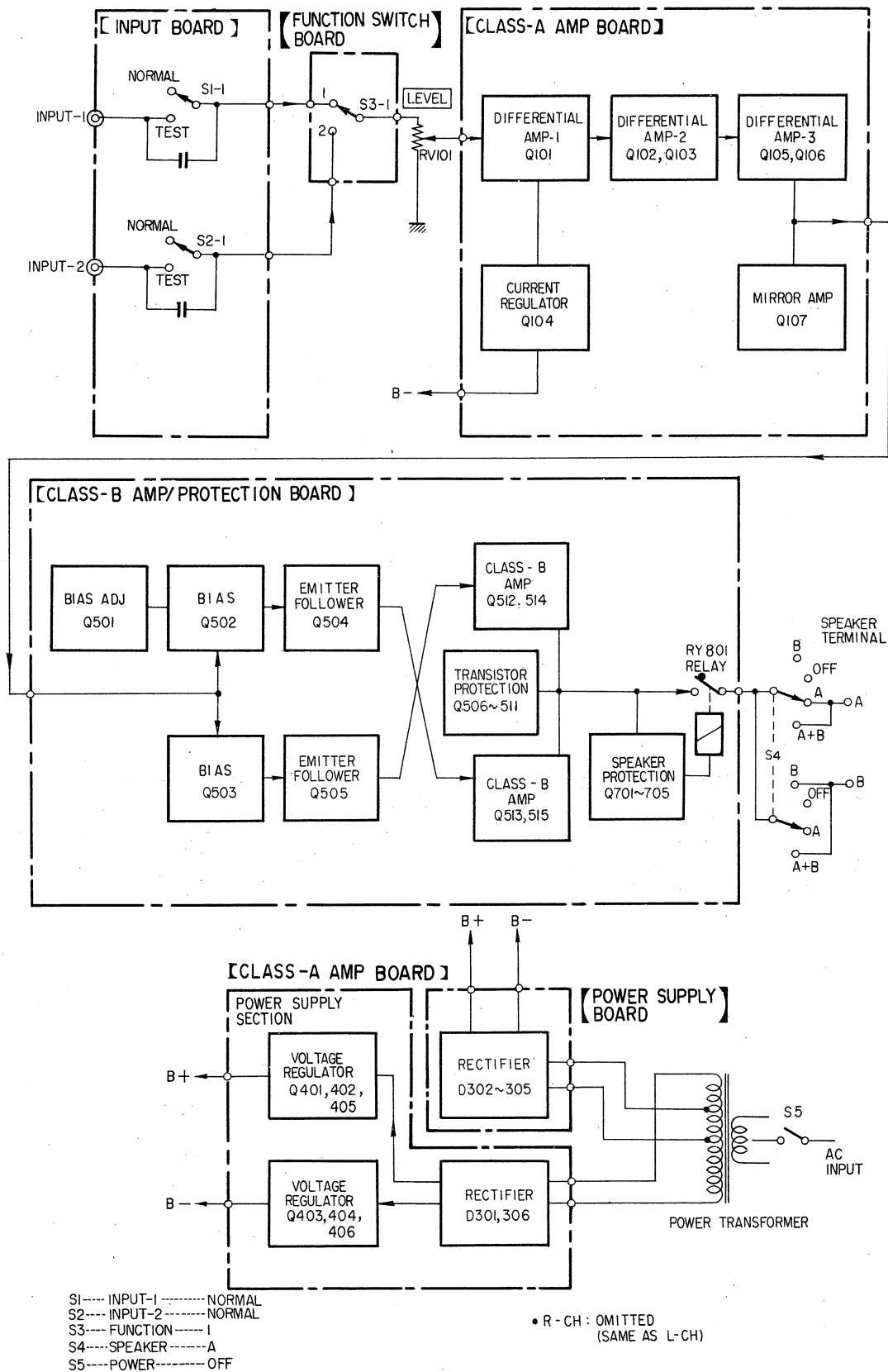
SONY®

SERVICE MANUAL

SECTION 1

OUTLINE

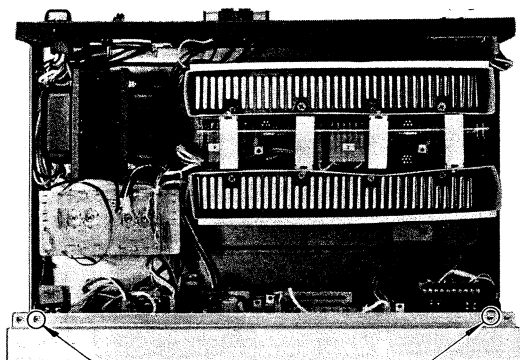
1-1. BLOCK DIAGRAM



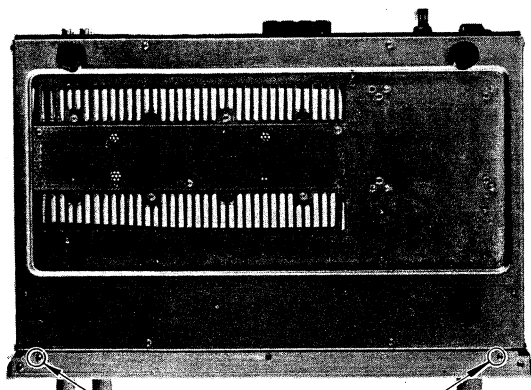
1-2. DISASSEMBLY

Front Panel Removal

Remove ① and ② .



① B 3 x 8, self-tapping
(two)



② B 3 x 8, self-tapping
(two)

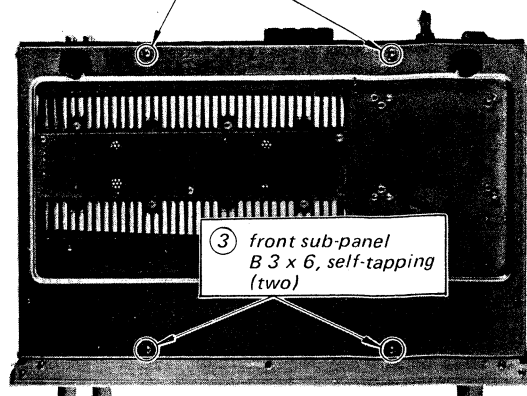
Front Sub-panel Removal

Remove ③ and ④ .

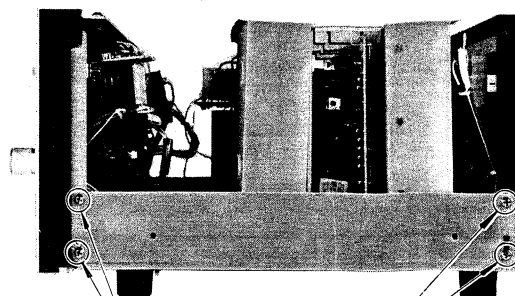
Rear Panel Removal

Remove ⑤ and ⑥ .

⑤ rear panel
B 3 x 6, self-tapping
(two)



③ front sub-panel
B 3 x 6, self-tapping
(two)



④ front sub-panel
B 3 x 8, self-tapping
(four)

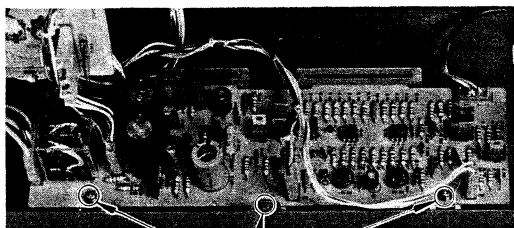
⑥ rear panel
B 3 x 8, self-tapping
(four)

Input Board Removal

1. Remove screws on slide switches.
2. Remove nylon rivets with 4-P pin jack.

Class-A Amp Board Removal

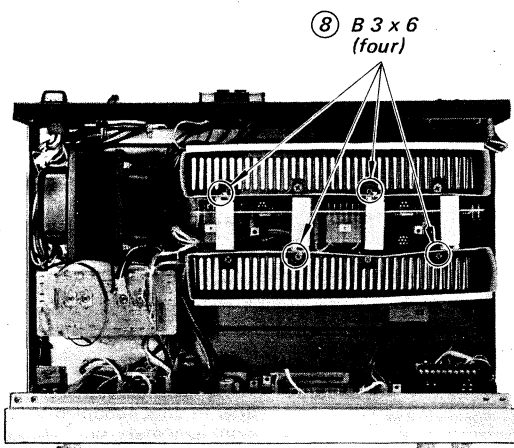
Remove ⑦ .



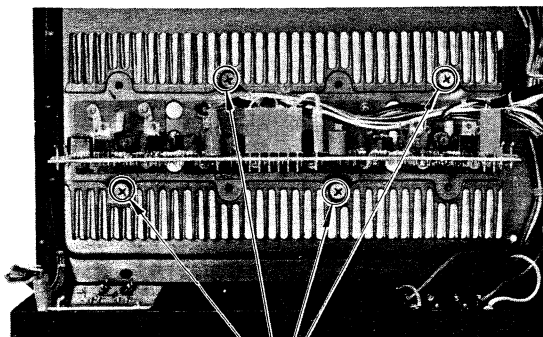
⑦ class-A amp board
B 3 x 6 (three)

Class-B Amp/Protection Board Removal

1. Remove ⑧ and heat sink duct.
2. Remove ⑨ and heat sink with class-B amp/protection board.



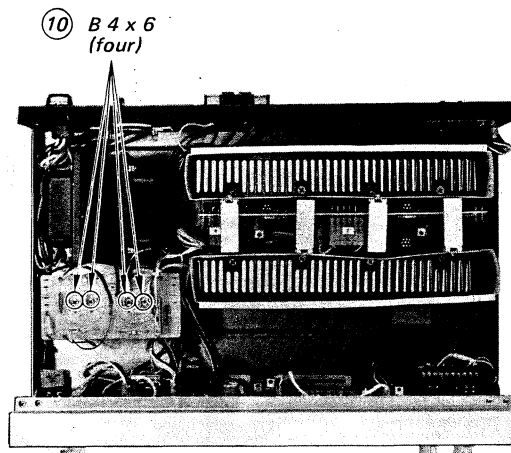
⑧ B 3 x 6
(four)



⑨ heat sink
B 4 x 8
(four)

Power Supply Board Removal

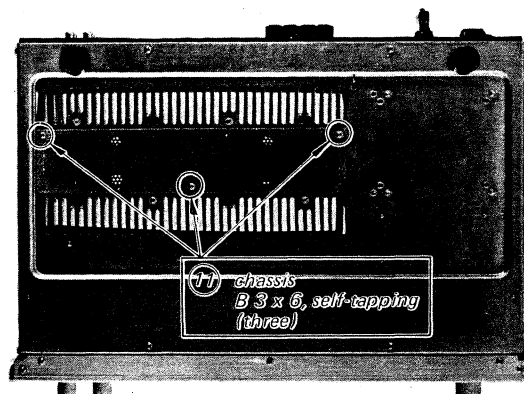
Remove ⑩ .



⑩ B 4 x 6
(four)

V-FET Replacement

1. Remove ⑪ and chassis.
2. Remove V-FET.



⑪ chassis
B 3 x 6, self-tapping
(three)

CAUTION

When replacing V-FET, use V-FET of same rank as shown below.



SECTION 2

ADJUSTMENTS

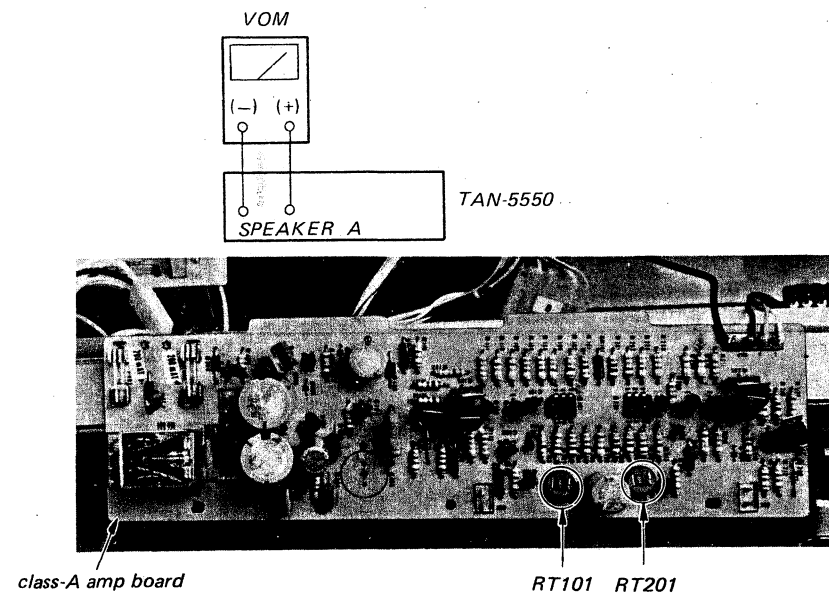
MEMO

Note:

1. Apply the rated ac line voltage to the set directly. Do not increase the voltage gradually by using a variable transformer or other such instrument; this will cause a V-FET failure.
2. Turn on the set and wait a few minutes for warm-up.
3. Alternately repeat the two adjustments 2-3 times.

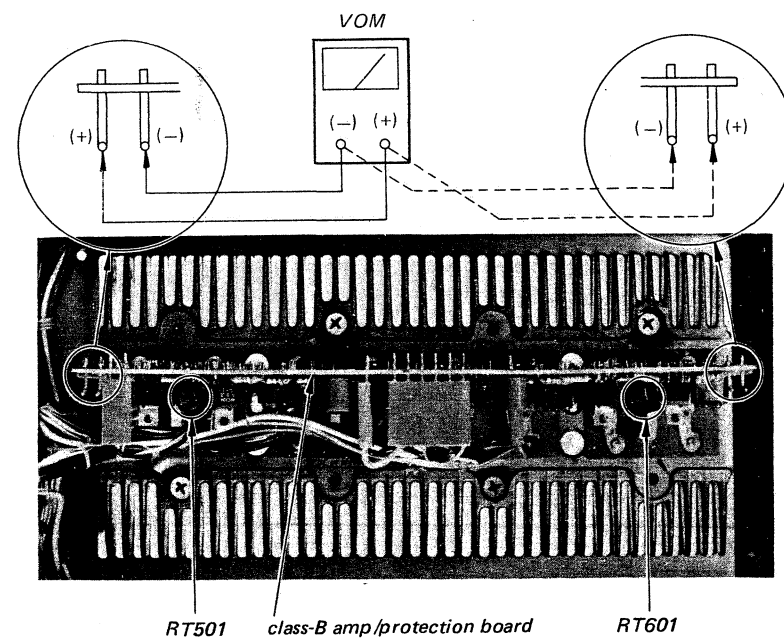
2-1. DC Balance Adjustment

Adjust RT101 (L-CH) and RT201 (R-CH) for OV dc.



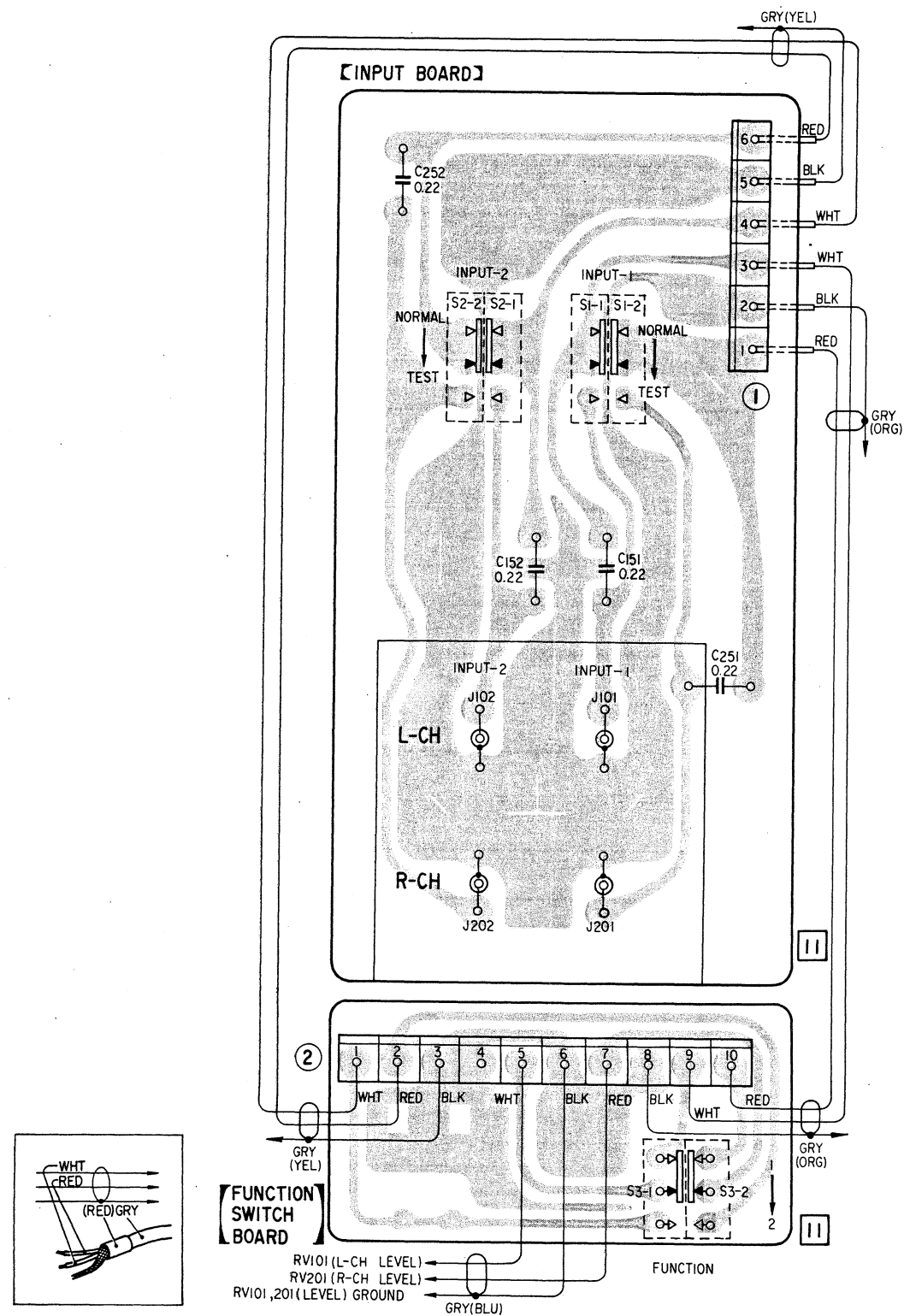
2-2. DC Bias Adjustment

Adjust RT501 (L-CH) and RT601 (R-CH) for 65 mV dc.

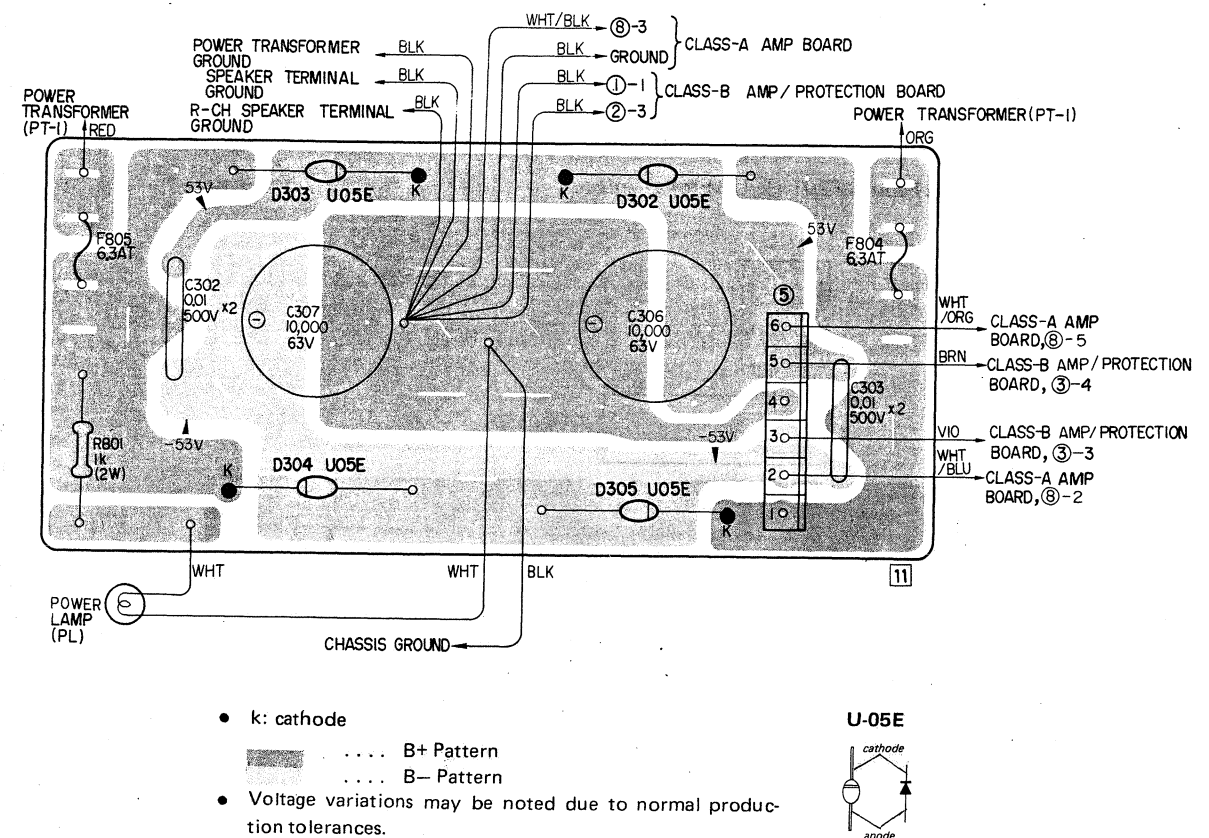


SECTION 3 DIAGRAMS

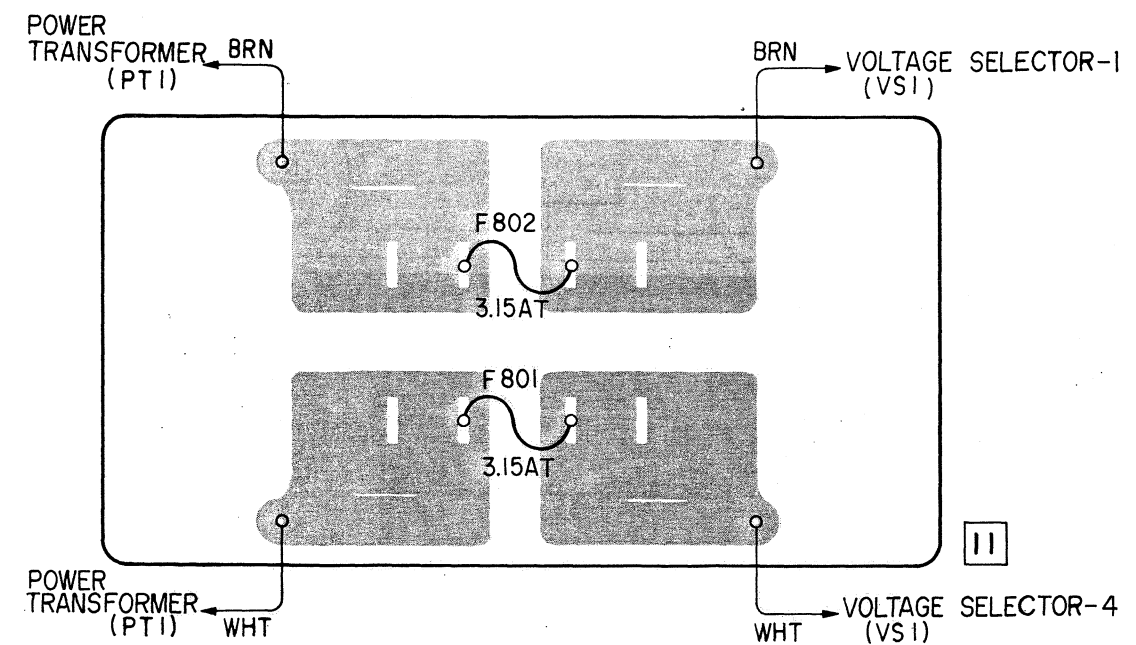
3-1. MOUNTING DIAGRAM — Input Board and Function Switch Board —
— Conductor Side —



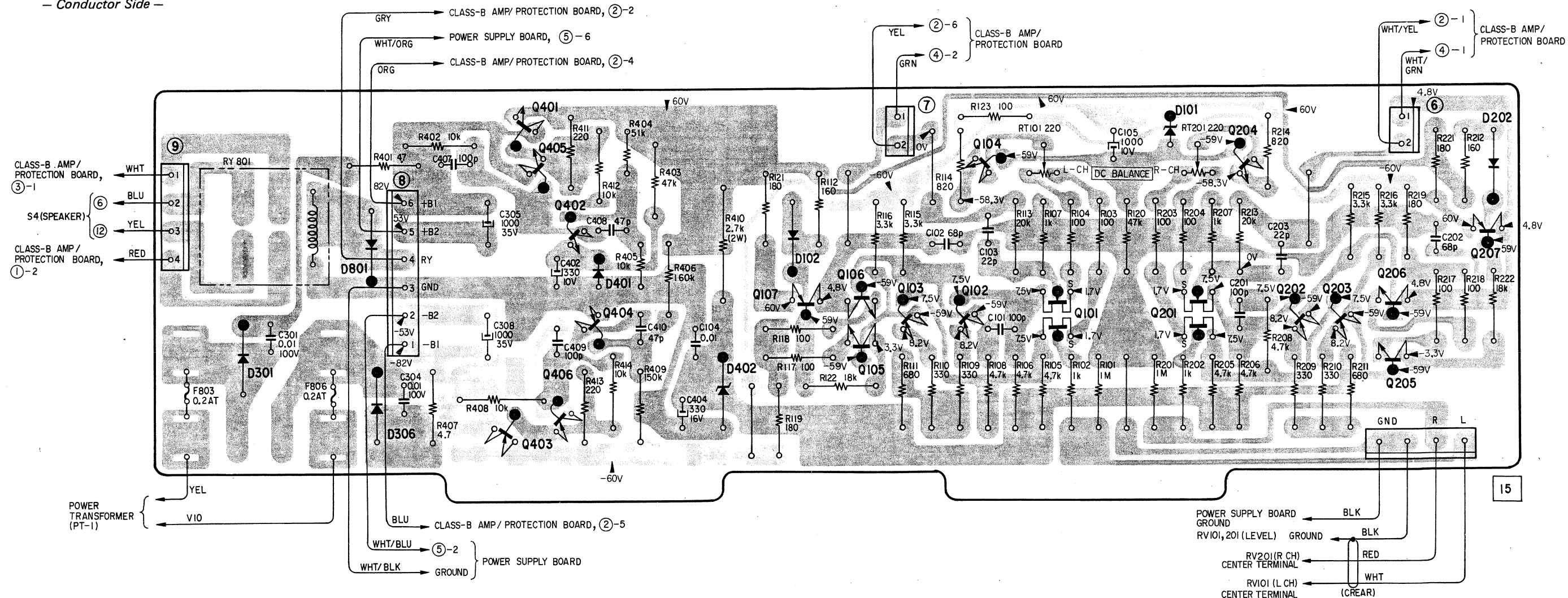
3-2. MOUNTING DIAGRAM — Power Supply Board —
— Conductor Side —



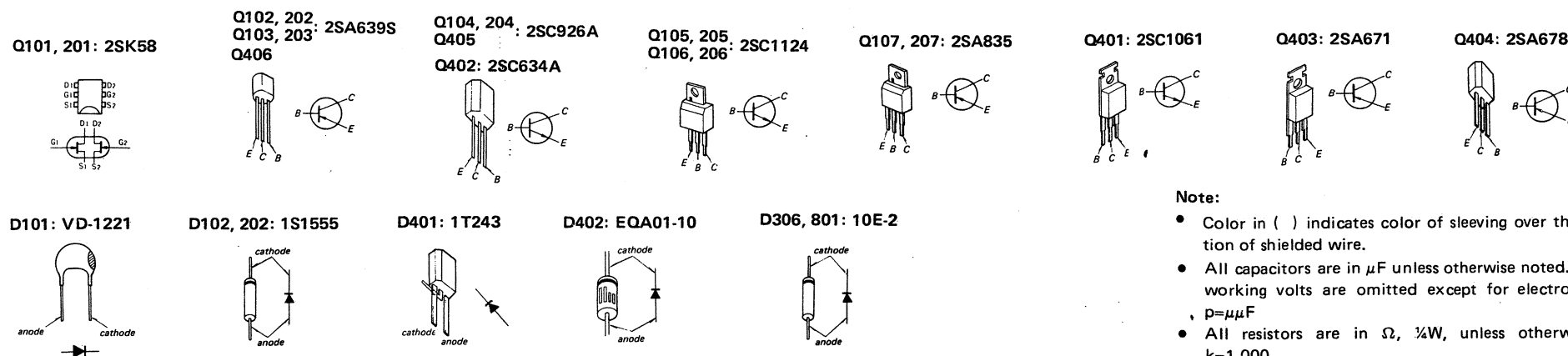
3-3. MOUNTING DIAGRAM — Fuse Board —
— Conductor Side —



3-4. MOUNTING DIAGRAM — Class-A Amp Board —
— Conductor Side —



Q	401	405	402	404	107	106	103	104	101	201	204	202	203	206	207
	403	406	404			105		102						205	
D	301	801	401	402	102					101					202
		306													

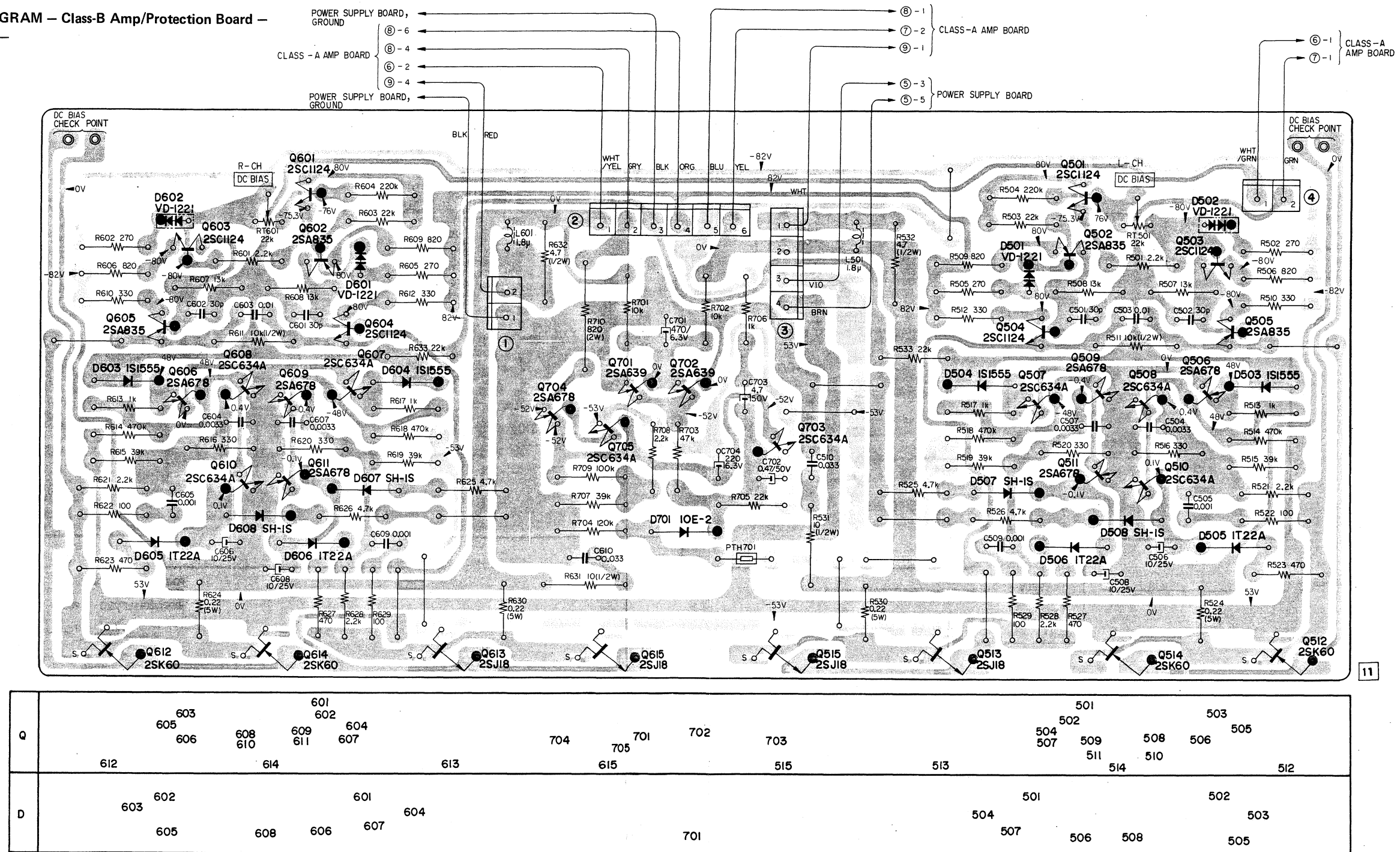


Note:

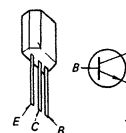
- Color in () indicates color of sleeving over the end portion of shielded wire.
- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type.
- $p = \mu\text{F}$
- All resistors are in Ω , $\frac{1}{2}\text{W}$, unless otherwise noted.
- $k = 1,000$

- Voltages are DC with respect to ground unless otherwise noted. Readings are taken under no-signal conditions with a VOM (20 $k\Omega/V$).
- B+ Pattern
- B- Pattern
- Voltage variations may be noted due to normal production tolerances.

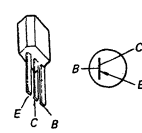
3-5. MOUNTING DIAGRAM — Class-B Amp/Protection Board —
— Conductor Side —



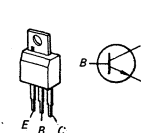
2SC634A



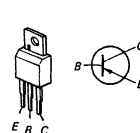
2SA678



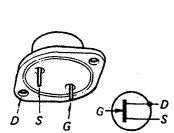
2SC1124



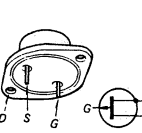
2SA835



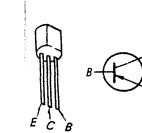
2SK60



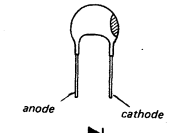
2SJ18



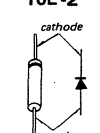
2SA639S



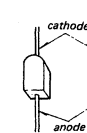
VD-1221



1T22A
1S1555
10E-2



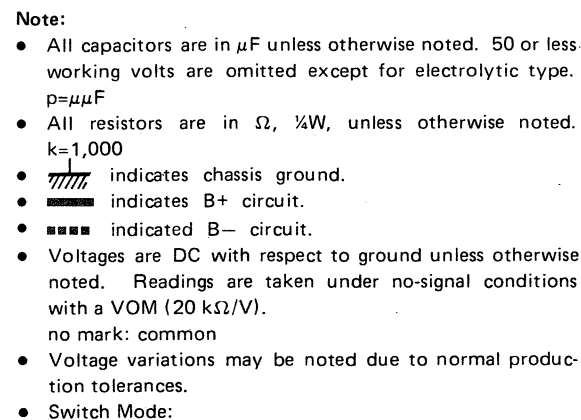
SH-1S



Note:

- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. $p=\mu\text{F}$
- All resistors are in Ω , $\frac{1}{4}\text{W}$, unless otherwise noted. $k=1,000$
- Voltages are DC with respect to ground unless otherwise noted. Readings are taken under no-signal conditions with a VOM (20 $k\Omega/V$).
..... B+ Pattern
..... B- Pattern
- Voltage variations may be noted due to normal production tolerances.

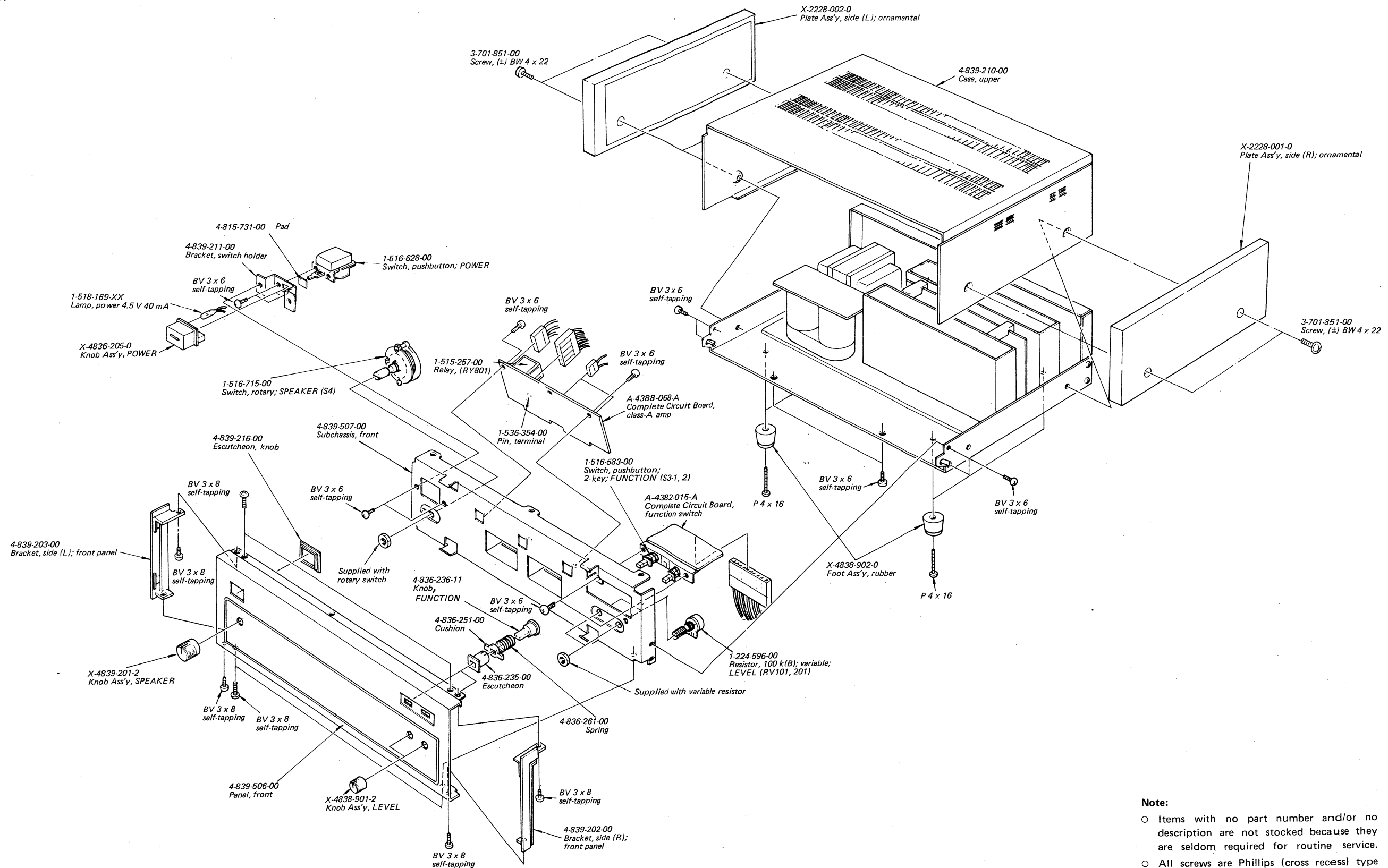
3-6. SCHEMATIC DIAGRAM



SW. No.	NAME	POSITION
S1	INPUT-1	NORMAL
S2	INPUT-2	NORMAL
S3	FUNCTION	1
S4	SPEAKER	A
S5	POWER	OFF

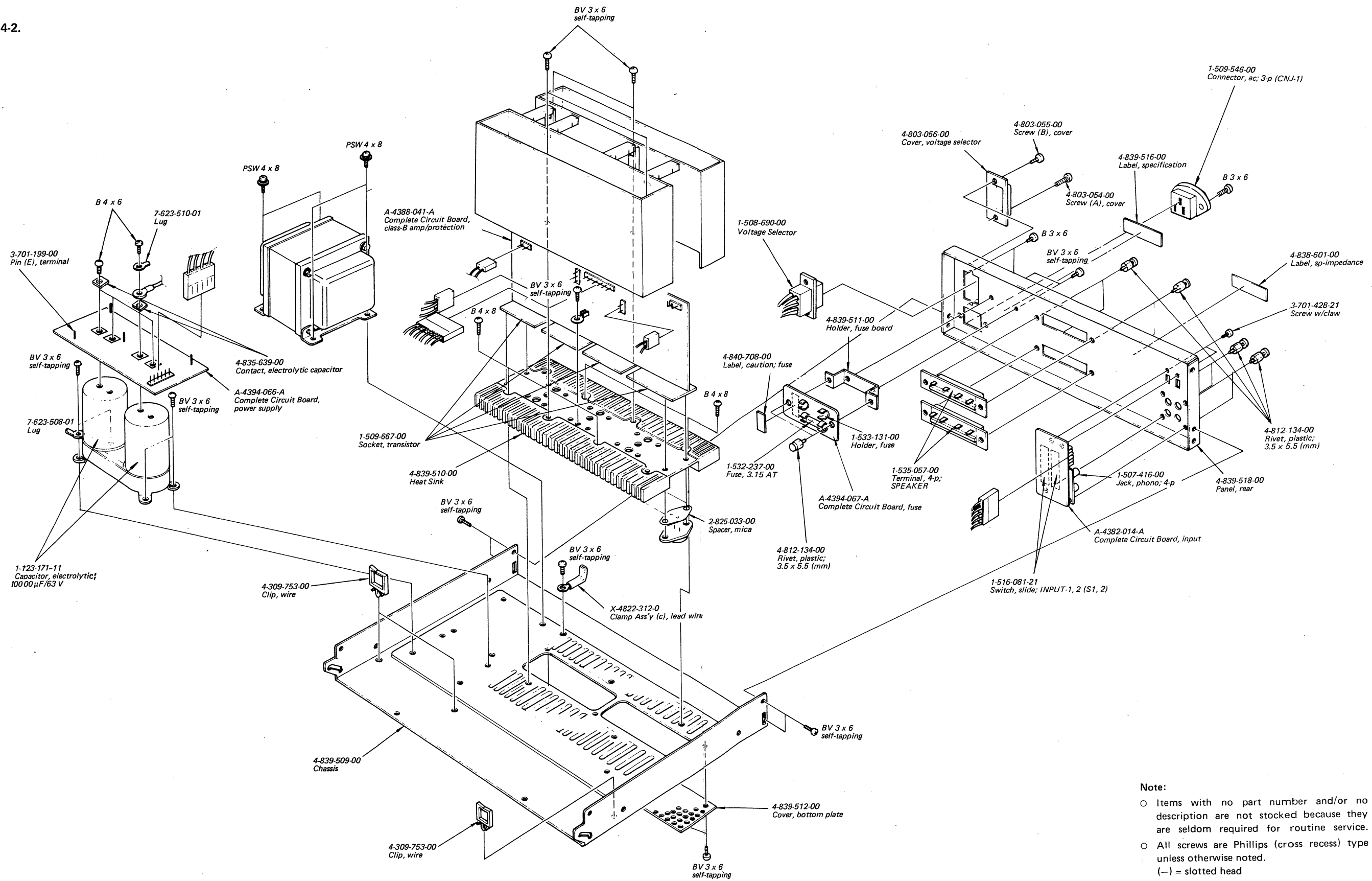
SECTION 4
EXPLODED VIEWS

4-1.



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- (□□T) shows the number of coils in spring.



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(—) = slotted head
- (□□T) shows the number of coils in spring.

SECTION 5
PARTS LIST

5-1. ELECTRICAL PARTS

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>
COMPLETE CIRCUIT BOARD		
A-4382-014-A	Input	
A-4382-015-A	Function Switch	
A-4388-068-A	Class-A amplifier	
A-4388-041-A	Class-B amplifier/protection	
A-4394-066-A	Power supply	
A-4394-067-A	Fuse	
SEMICONDUCTORS		
Transistors		
Q101, 201	2SK58	
Q102, 202	2SA639S	
Q103, 203		
Q104, 204	2SC926A	
Q105, 205		
Q106, 206	2SC1124	
Q107, 207	2SA835	
Q401	2SC1061	
Q402	2SC634A	
Q403	2SA671	
Q404	2SA678	
Q405	2SC926A	
Q406	2SA639S	
Q501, 601	2SC1124	
Q502, 602	2SA835	
Q503, 603		
Q504, 604	2SC1124	
Q505, 605	2SA835	
Q506, 606	2SA678	
Q507, 607	2SC634A	
Q508, 608		
Q509, 609	2SA678	
Q510, 610	2SC634A	
Q511, 611	2SA678	
Q512, 612	2SK60	
Q513, 613	2SJ18	
Q514, 614	2SK60	
Q515, 615	2SJ18	
Q701, 702	2SA639	

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>
Q703, 705	2SC634A	
Q704	2SA678	
Diodes		
D101	VD-1221	
D102	1S1555	
D202	1S1555	
D301	10E-2	
D302 ~ 305	U05E	
D306	10E-2	
D401	1T243	
D402	EQA01-10	
D501, 502	VD-1221	
D503, 504	1S1555	
D505, 506	1T22A	
D507, 508	SH-1S	
D601, 602	VD-1221	
D603, 604	1S1555	
D605, 606	1T22A	
D607, 608	SH-1S	
D701	10E-2	
D801	10E-2	
CAPACITORS		
All capacitors are in μ F and electrolytic type unless otherwise indicated. 50 or less working volts are omitted except for electrolytic type. $p = \mu\mu$ F		
C101, 201	1-102-973-11	100 p ceramic
C102, 202	1-101-888-11	68 p ceramic
C103, 203	1-102-959-11	22 p ceramic
C104	1-105-673-12	0.01 mylar
C105	1-121-943-11	1000 10 V
C151, 251		
C152, 252	1-105-689-12	0.22 mylar

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>
C301	1-105-713-12	0.01 100 V mylar
C302, 303	1-102-355-11	0.01 500 V ceramic
C304	1-105-713-12	0.01 100 V mylar
C305	1-121-388-11	1000 35 V
C306, 307	1-123-171-11	10000 63 V
C308	1-121-388-11	1000 35 V
C402	1-121-805-11	330 10 V
C404	1-121-521-11	330 16 V
C407, 409	1-102-973-11	100 p ceramic
C408, 410	1-102-880-11	47 p ceramic
C501, 601		
C502, 602	1-102-962-11	30 p ceramic
C503, 603	1-105-673-12	0.01 mylar
C504, 604	1-105-667-12	0.0033 mylar
C505, 605	1-105-661-12	0.001 mylar
C506, 606	1-121-398-11	10 25 V
C507, 607	1-105-667-12	0.0033 mylar
C508, 608	1-121-398-11	10 25 V
C509, 609	1-105-661-12	0.001 mylar
C510, 610	1-105-679-12	0.033 mylar
C701	1-121-419-11	470 6.3 V
C702	1-121-726-11	0.47 50 V
C703	1-121-396-11	4.7 50 V
C704	1-121-419-11	220 6.3 V
RESISTORS		
All resistors are in Ω . Regular-type $\frac{1}{4}$ W carbon and composition resistors are omitted. Check the schematic diagram for the resistance values. $k = 1,000$, $M = 1,000 k$		
R404	1-212-695-11	51 k $\frac{1}{4}$ W metal-oxide
R405	1-212-678-11	10 k $\frac{1}{4}$ W metal-oxide
R410	1-206-674-11	2.7 k 2 W metal-oxide
R511, 611	1-202-597-11	10 k $\frac{1}{2}$ W composition
R524, 624		
R530, 630	1-217-156-11	0.22 5 W wirewound
R531, 631	1-202-525-11	10 $\frac{1}{2}$ W composition
R532, 632	1-202-517-11	4.7 $\frac{1}{2}$ W composition
R710	1-206-662-11	820 2 W metal-oxide

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>
R801	1-206-662-11	1 k 2 W metal-oxide
RT101		
RT201	1-224-550-00	220, adjustable
RT501		
RT601	1-224-491-00	22 k, adjustable
RV101		
RV201	1-224-596-00	100 k (B), variable; LEVEL
SWITCHES		
S1, 2	1-516-081-21	Slide, INPUT-1, 2
S3-1, 2	1-516-583-00	Pushbutton, 2-key; FUNCTION
S4	1-516-715-00	Rotary, SPEAKER
S5	1-516-628-00	Pushbutton, POWER
FUSES		
F801, 802	1-532-237-00	3.15 AT
F803, 806	1-532-074-00	0.2 AT
F804, 805	1-532-325-00	6.3 AT
MISCELLANEOUS		
CNJ-1	1-509-546-00	Connector, ac; 3-p
J101, 201		
J102, 202	1-507-416-00	Jack, phono; 4-p
L501, 601	1-407-592-00	Microinductor, 1.8 μ H
PL	1-518-169-XX	Lamp, pilot; 4.5 V 40 mA
PT1	1-442-537-00	Transformer, power
PTH701	1-800-340-00	Thermistor, positive
RY801	1-515-257-00	Relay
TM801		
TM802	1-535-057-00	Terminal, 4-p; SPEAKER
VS1	1-508-690-00	Voltage, selector
	1-508-648-00	Connector, male; 4-P
	1-508-649-00	Connector, male; 6-P
	1-508-650-00	Connector, male; 10-P

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
	1-508-678-00	Connector, male; U-shaped
	1-508-684-00	Connector, male; 2-P
	1-508-692-00	Connector, male; 2-P
	1-508-748-00	Connector, female; 6-P
	1-509-667-00	Socket, transistor
	1-533-131-00	Holder, fuse
	1-536-354-00	Connector, male